AMENDMENTS TO THE DRAWINGS

Please replace original drawings sheets 6-7, with the attached revised drawing sheets 6-7, amending figures 6-7.

REMARKS

Claims 1-4 and 5-11 are pending in the application. By this Amendment, the specification, drawings and claims 1-4 and 6-10 are amended. Claim 11 is added. Applicants concurrently file herewith a petition and fee for a three-month extension of time.

It is noted that the claim amendments are made only for more particularly pointing out the invention, and not for distinguishing the invention over the prior art, narrowing the claims or for any statutory requirements of patentability. Further, Applicants specifically state that no amendment to any claim herein should be construed as a disclaimer of any interest in or right to an equivalent of any element or feature of the amended claim.

With respect to the prior art rejections, claims 1-5 stand rejected under 35 U.S.C. § 102(b) as being anticipated by Sadakata (U.S. Patent No. 4,991,871). Claim 6 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Sadakata, in view of Banshoya, et al. (XP002000032) (cited by Applicants in an Information Disclosure Statement filed April 8, 2004). Claims 7-8 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Sadakata, in view of Keen (AU 29955 77A) (cited by Applicants in an Information Disclosure Statement filed April 8, 2004). Claim 9 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Sadakata, in view of Keen, as applied to claim 7 above, and further in view of Banshoya, et al.

Applicants note that the Examiner has failed to acknowledge or examine claim 10 that was added in a Preliminary Amendment filed concurrently with this application on October 7, 2003.

The rejections are respectfully traversed in the following discussion.

I. THE CLAIMED INVENTION

The invention, as described in independent claim 4 for example, relates to a shock absorbing steering device including a first column which is cylindrical-shaped, a second column is cylindrical-shaped and is press fitted into an opening at one end of the first column, and a shock absorber provided on an inner wall of the first column, the shock absorber including a first shock absorbing section having convex portions arranged on the inner wall with predetermined intervals in a circumferential direction of the column and a second shock absorbing section having convex portions arranged on the inner wall with predetermined intervals in a circumferential direction of the column. The first shock absorbing section is provided nearer to the opening of the first column than the second shock absorbing section, and an inside diameter of the first shock absorbing section is different from an inside diameter of the second shock absorbing section. The inside diameter of the first shock absorbing section is smaller than the inside diameter of the second shock absorbing section (Application at page 5, line 3-page 6, line 2).

In a conventional shock absorbing steering device, as described in the Background section of the present application, a diameter of a circle defined by tip ends of swaged part formed at a position near to an opening in a column is to equal to a diameter of a circle defined by tip ends of swaged part formed at a position remote from an opening in a column. As a result, pressing forces are dramatically increased as the swaged parts formed at a position remote from the opening are engaged (Application at page 3, line 6-page 4, line 26).

In contrast, the claimed invention may reduce pressing forces by changing a position in a diametrical direction of the swaged parts located at a position remote from the opening. This is important because by increasing the diameter of a circle formed by the tip end portions of the swaged parts formed at a position remote from the opening, (e.g., decreasing a depth of the swaged parts), mutual pressing forces of the two columns by way of the swaged parts between the position close to the opening and the position remote from the opening may become small.

II. THE 35 U.S.C. §112 REJECTIONS

Claims 1-9 stand rejected under 35 U.S.C. § 112, second paragraph. As the claims are amended in response to the rejection, withdrawal of the rejection is respectfully requested.

III. THE PRIOR ART REJECTIONS

A. The 35 U.S.C. §102(b) Sadakata Reference Rejection

In rejecting claims 1-5 under 35 U.S.C. §102(b) as being anticipated by Sadakata, the Examiner alleges that Sadakata discloses all of the features recited in the rejected claims. However, Sadakata fails to disclose or suggest the features recited in the rejected claims.

For example, Sadakata fails to disclose or suggest that the inside diameter of the first shock absorbing section is smaller than the inside diameter of the second shock absorbing section.

Sadakata discloses a collapsible steering column apparatus having an inner column 11 and an outer column 12. On the outer column 12, first engaging portions 13 are formed between first arc portions 15. Second engaging portions 14 are formed between third arc portions 17. The first and second engaging portions 13, 14 formed on an inner surface of the outer column 12 engage an outer peripheral surface of the inner column 11 (col. 6, lines 12-55).

In a first embodiment, shown in Figs. 5-7, a radius of curvature r_1 formed between the first arc portions 15 is described as being smaller than a radius of curvature R of the outer peripheral surface of the inner column 11. Similarly, a radius of curvature r_2 formed between the second arc portions 17 is also described as being smaller than a radius of curvature R of the outer peripheral surface of the inner column 11 (col. 6, lines 44-68).

Moreover in a second embodiment, shown in Fig. 8, the first engaging portion 13 clearly has an inside diameter D that is larger than the inside diameter d of the second engaging portion 14 (col. 7, lines 50-57).

Thus, in the second embodiment, Sadakata teaches away from the claimed invention because Sadakata teaches decreasing the diameter of the second engaging portion 14 relative to the first engaging portion 13, thereby actually increasing the pressing forces at the second engaging position. To address the problematic increase in the pressing forces, Sadakata again teaches tapering the inner column 11 an end that engages the second engaging portion 14 (see Figs. 8-10, col. 7, line 44-col. 8, line 13).

With the arrangement of Sadakata, it is possible to increase the absorbing load (press fitting load). However, it is difficult to suppress variation of the absorbing load. To suppress the variation, not only is it necessary to make a contact surface of the tube accurately (constant) but it is also necessary to prevent the tube from being expanded in the taper shape when assembling. In Sadakata, the tube is positively deformed by compression and this deformation of the tube makes the absorbing load.

In contrast, according to the present invention, as discussed at pages 14-16 of the specification, the variation in the press fitting loads can be more easily decreased.

Because Sadakata fails to disclose or suggest the features of the rejected claims, withdrawal of the rejection of claims 1-5 is respectfully requested.

B. The 35 U.S.C. §103(b) Sadakata and Banshoya Reference Rejection

In rejecting dependent claim 6 as being obvious over the combination of Sadakata and

Banshoya, the Examiner alleges Sadakata discloses all of the features of the rejected claim, with the exception of the additional features recited in claim 6. In an effort to overcome the admitted deficiency, the Examiner alleges that Banshoya would have been combined with Sadakata to form the claimed invention.

Applicants submit that claim 6 is allowable for its dependency on its independent base claim for the reasons discussed above, as well as for the additional features recited therein. Moreover, as Banshoya fails to overcome the deficiencies of Sadakata regarding the independent base claim, the combination of references fails to teach or suggest each and every element of the claimed invention.

Even assuming *arguendo* that the references were combined, the combination still fails to disclose or suggest the additional feature recited in claim 6, i.e., "a third shock absorbing section provided in between said first and second shock absorbing sections... wherein an inside diameter of said third shock absorbing section is different from at least one of said inside diameter of said first shock absorber and said inside diameter of said second shock absorber."

Banshoya describes an energy absorbing steering column having an outer jacket, a column and a steering shaft. The outer jacket has indented collars A-D and the tubular column has a taper down its length. Therefore, when the tapered column is inserted into the outer jacket, only the indented collars A and D engage the column. Thus, all of the indented collars have the same inside diameter. The distance between the outer jacket and the column only changes due to the taper of the column (Fig. 1, page 36, col. 2, line 10-col. 3, line 16).

Therefore, the combination of references fails to render claim 6 obvious and the withdrawal of the rejection is respectfully requested.

C. The 35 U.S.C. §103(b) Sadakata and Keen Reference Rejection

In rejecting claims 7 and 8 as being obvious over the combination of Sadakata and Keen, the Examiner alleges that the combination of references Keen discloses all of the features of the rejected claims. Applicants submit, however, neither Sadakata of Keen, whether applied separately or in combination, teach or suggest each and every element recited in the rejected claims.

For example, the combination of references fails to disclose or suggest, the first shock absorbing section is provided in nearer to the opening of said first column than said second shock absorbing section, and an external diameter of said first shock absorbing section is different from an external diameter of said second shock absorbing section.

It is admitted in the Office Action that Sadakata fails to disclose shock absorbing portions on an external surface of the inner tube. In an effort to overcome the admitted deficiency, the Examiner alleges that Keen overcomes the deficiency and discloses first and second shock absorbing sections as recited in the rejected claims.

Keen, discloses only a single friction grip 8 formed on an inner tube 7. The friction grip 8 is comprised of an outward flare end formed on the inner tube 7. Outwardly displace guide portions form guides 9 to "maintain axial alignment between the two tubes" (page 4, lines 16-26). The guides or "guide means" recited in Keen are only described as maintaining an axial position and therefore do not correspond to a shock absorbing section. Thus, there is no description of the guide means 9 of Keen as being a shock absorbing portion as alleged in the Office Action.

Because the combination of references fails to render claims 7 and 8 obvious, withdrawal of the rejection is respectfully requested.

D. The 35 U.S.C. §103(b) Sadakata, Banshoya and Keen Reference Rejection

In rejecting dependent claim 9 as being obvious over the combination of Sadakata, Banshoya and Keen, the Examiner alleges Sadakata and Keen disclose all of the features of the rejected claim, with the exception of the additional features recited in claim 9. In an effort to overcome the admitted deficiency, the Examiner alleges that Banshoya would have been combined with Sadakata and Keen to form the claimed invention.

Applicants submit, that claim 9 is allowable for its dependency on its independent base claim for the reasons discussed above, as well as for the additional features recited therein. Moreover, as Banshoya fails to overcome the deficiencies of Sadakata and Keen regarding the independent base claim, the combination of references fails to teach or suggest each and every element of the claimed invention.

As discussed above, Banshoya merely discloses indented collars A-D having the same inside diameter. Thus, the combination of references fails to render claim 9 obvious and the withdrawal of the rejection is respectfully requested.

IV. FORMAL MATTERS AND CONCLUSION

A. Objections to the Drawings

The drawings are objected to for allegedly failing to properly include a label identifying the subject matter shown therein.

As Figs. 6 and 7 are amended to include the label "Related Art," withdrawal of the objection is respectfully requested.

B. Specification

The Abstract of the specification is amended in response to the objection.

C. Conclusion

In view of the foregoing, Applicants submit that claims 1-4 and 6-11, all the claims presently pending in the application, are patentably distinct over the prior art of record and are in condition for allowance. The Examiner is respectfully requested to pass the above application to issue at the earliest possible time.

Should the Examiner find the application to be other than in condition for allowance, the Examiner is requested to contact the undersigned at the local telephone number listed below to discuss any other changes deemed necessary in a telephonic or personal interview.

The Commissioner is hereby authorized to charge any deficiency in fees or to credit any overpayment in fees to Attorney's Deposit Account No. 50-0481.

Respectfully Submitted,

Date: 2/28/07

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